MONTANA *Industrial Horizons*

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Sweepstakes Award Presented for Montana's Rose Parade Float

Peter Davis, right, Pasadena Tournament of Roses official, ishown presenting Gov. Tim Babcock with the coveted Sweepstakes Trophy. It is a striking color photograph of Montana's 1966 Big Sky Country float which won the award New Year's Day.

The Sweepstakes Award for Montana's winning entry in the 1966 Tournament of Roses parade was formally presented to Governor Tim Babcock at a banquet held in Helena on March 31.

In presenting the award to Governor Babcock, Peter Davis, Tournament of Roses official, pointed out that this was the first time in the 77-year history of the Pasadena Rose Parade that the highest award ever was conferred on an entry from any state except California.

Depicting the changing seasons in Montana, the float consisted of two flower gardens—one an eruption of summertime color and the other a frosty winter scene in white and silver.

This year was only the second time that the state has entered a float in the Big Parade, and the victory was thus a remarkable one won in competition with the giants and the veterans. Thomas J. Collins, of Missoula, was chairman of the Montana Rose Bowl Parade Float Committee.

An invitation has already been extended to Montana to enter a float in the 1967 parade by Henry Kearns, president of the Pasadena Tournament of Roses Association. "This is a rather unusual procedure to take action so early in the year," Kearns wrote. "We do so because of our appreciation of your fine entry which assisted in making th 1966 parade the best ever."

Governor Babcock announced at the awards dinner that Montana will accept the invitation and attempt to repeat this year's triumph.

Davis said 275 million persons read and saw photographs of the Montana float, including 75 million people in Europe.

Sirco Mfg. Plans European Plant

Sirco Manufacturing, Inc., a Missoula firm which manufactures typewriter desks and sewing machine tables, is in the process of setting up manufacturing plants in Europe.

Kenneth A. Blevins, president of the company, recently returned from a ten-day trip to Europe to investigate licensing agreements and to look for plant locations in England and Germany.

Sirco is the former Type-Rite Desk Manufacturing Co. It was recently purchased by the West Coast firm of Simpson-Reed and Co. and Blevins was retained as president.

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Anaconda Co. to Add to Concentrator, Re-Open Zinc Plant

The Anaconda Co plans to construct a several million dollar addition to the Clyde E. Weed copper ore concentrating plant in Butte. Construction is expected to start this summer, and be completed early in 1967.

The addition will be a separate section of the Weed mill for improved recovery of acid soluble copper in the ore.

The company also plans to reopen the electrolytic zinc plant at Anaconda, which has been shut down since January 1961. Anaconda has an agreement to receive zinc concentrate from Pine Point Mines, Ltd., a subsidiary of Consolidated Mining & Smelting Co. of Canada, Ltd.

Imports of concentrates are scheduled to start this summer when rehabilitation of the Anaconda refinery is completed. The plant will require additional ore roasting facilities, as well as four electrolytic treatment units.

Inventors Congress May 20, 21, 22

The second annual Montana Inventors Congress and Manufacturers Display will be held in Lewistown, May 20, 21 and 22. The Congress is sponsored by the State Planning Board and the Montana Chamber of Commerce in Helena, and the Lewistown Chamber of Commerce. Inventors may write to any of these three agencies to obtain the forms to participate in the meetings and display their inventions.

The information kit contains a complete agenda covering the three day program, display suggestions, and a list of patent attorneys in and around Montana ....

Experts on financing, marketing, advertising, management and patents will address the Congress and be in attendance to meet privately with the inventors, and representatives from some of the nation's largest firms will be on hand to examine the inventions in search of new product lines.

Manufacturers who want to bring their products to the attention of the public are also invited to enter an exhibit.

In the News . . .

Continental Oil Co. expects to invest nearly $7 million in Montana in 1966. K. W. Brill, Rocky Mountain region manager, estimates that Conoco will contribute more than $13 million to the state's economy exclusive of maintenance and other normal operating expenditures.

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Mountain States Telephone Co. plans a $15 million construction program in Montana this year. Construction has already started on a $627,000 microwave system from Malta to Glasgow. They expect to complete installation of dial service at all of their exchanges this year.

The **Montana Power Co.** has announced a construction budget of approximately $15 million in 1966. It includes additions to the firm's electric transmission system, part of which will be a 100,000-volt line to serve the expanding pulp and paper mill at Missoula.

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Union Oil Company of California held a 76th anniversary celebration in Billings coincidental with its annual sales meeting for dealers and employees in the company's Glacier Division, and announced plans to invest more than $450,000 in new service stations and other marketing facilities, this year in Montana. This is in addition to upgrading and improving existing facilities, drilling costs and refinery upkeep. Union Oil has crude oil properties and a refinery in the Cut Bank area.

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Montana-Dakota Utilities will build a $165,900 control center at **Glendive** for the company's 1966 gas system installation through eastern Montana.

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The **Holiday Inn** in **Butte** has been completed and is open to guests. The new motel employs about 55 people presently with increased employment anticipated as the tourist season begins.

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Montana Vegetable Oil & Feed Co., Great Falls, has completed construction of a new building and has installed new refining machinery. The company processes flaxseed, mustard and rapeseed.

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The **CB&F Development Corp., Culbertson,** will build a $345,000 livestock feed and blocking plant. The facility will process and manufacture locally grown feed products barley, oats, hay, and safflower seed. Construction is expected to begin immediately with completion set for October.

Great Falls Brewery Markets New Beer

Great Falls Breweries, Inc., has introduced a new product, Big Sky beer, a milder, paler beer than their Great Falls Select.

The brewery has since gone into round-the-clock production and an additional 700,000 pounds of barley is expected to be used yearly as a result of the new beer.

The new beer, in addition to all points in Montana, will go into North and South Dakota, eastern Washington and all larger cities and towns of Idaho, such as Boise, Salmon, Mullan, Coeur d'Alene, Lewiston, Pocatello, Idaho Falls and Twin Falls. Wyoming cities that will get the new beer include Sheridan, Casper, Cheyenne, Rock Springs, Laramie and Rawlins.

"Big Sky" carries an attractive blue and white label and comes in bottles or cans. It is almost champagne light, and not so filling as heavier beers. It's appeal is aimed at the tastes of younger people in the 21 to 35 age group.

Governor Tim Babcock headed a list of distinguished guests of the brewery for the coming-out party for the new product which will supplement the original Great Falls Select beer. He paid tribute to the importance of the Great Falls Brewery to the economy of Montana as well as Great Falls.

SIRCO MFG. PLANS

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Type-Rite Desk was founded about eight years ago in Missoula by Blevins and Gordon Penland to manufacture desks and tables which Blevins designed and has patented. It employed two people at that time and now has about 50 employees.

The overseas locations are being sought due to rapidly increasing sales of the company's products throughout Europe, Blevins said.

IN THE NEWS (Continued)

Waldorf-Hoerner Paper Products Co. in Missoula has announced a $143,000 wood chemistry study grant to the University of Montana Foundation. An initial payment of $18,000 for purchase of laboratory equipment has been made and the company has pledged a sum of $25,000 for each of the next five years to support the study.

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Plans for construction at their **East Helena** custom lead smelter of a $1.5 million roasting plant for ore refining have been announced by **American Smelting & Refining V. Stanley M. Lane**, smelter manager, said work on the project will start within two months and it should be completed by September.

MONTANA HOUSEWIFE WANTS MONTANA BROOM FOR MONTANA DIRT

The **Montana-Standard** recently received a letter from a housewife in Richey asking for the address of the broom factory which she believed was located in Butte. She wanted the address so she could give it to the local stores, ". . . because they look at me in disbelief when I say Montana makes brooms." She continued, "I refuse to buy Nebraska and Wisconsin brooms to sweep Montana dirt when Montana makes brooms."

There is indeed a broom manufacturer in Montana, the Montana Broom and Brush Company located at 730 East Iron Street in Butte.

The company has been in business since 1919 and they make household brooms and the heavy duty warehouse type brooms. William G. Hitchcock, president of the company, says that they make about 3,500 doz. brooms a year and they are distributed through wholesale grocery and hardware jobbers, and chain stores. They also carry a complete line of janitorial supplies. Six people are employed by the firm.

We hope housewives all over the state will inquire about these brooms at their local stores, and keep in mind the "Buy Montana Products" slogan when shopping for other items also.

STRactan Approved by Pure Food and Drug

The Pure Food and Drug Administration has approved the use of STRactan, the unique industrial gum manufactured at Libby by the J. Neils Lumber Division of St. Regis Paper Co.

This means that STRactan can now be used in foods and drugs, according to Mel Knudson, forest products technical director, who helped develop the substance. It now has widespread applications in offset printing, paint, ink and textiles as a binder, coating, filler and emulsifier.

The technical name for the gum is arabinogalactan, and it is the first natural gum exudate ever to be produced and developed entirely domestically here in the United States. Most of the gum has come from the bark of acacia in Africa's Sudan region.

STRactan is produced by a unique extraction process from timber of the giant western larch trees at the site of the J. Neils plant. It is about 96 percent pure with a higher and more constant level of purity than gum arabic, which is often polluted with insect fragments.

American industries use more than a billion pounds of industrial gums annually. With this sanction from Pure Foods, it appears that the Libby STRactan plant could become a major St. Regis industry.

Forestry Sciences Laboratory at U of M

Congress has recently appropriated funds for construction of a Forest Science Laboratory at the University of Montana in Missoula. This building will house a broad program of forestry research. It will be the center of the Forest Service's research in the processing of western woods. Other projects now underway or to be undertaken at this location include forest insect, wildlife, watershed management, timber management, forest products marketing, and wilderness management research.

Montana's Congressional Delegation and state agencies, including the State Planning Board, have long supported and urged adequate funding for forestry research, and this is the third research facility to be built in the state since 1960.

The accelerated interest in forestry grew out of hearings on national forest problems that were held by the Interior Committee in 1955, and a detailed staff review that was made of timber management problems in 1958. Both of these studies showed the need for long-range plans and goals if the nation was to meet the ever-growing wood needs in the face of the expanded population that we will have by the year 2000. Also in 1958 Montana's Congressional Delegation, headed by the late Senator James E. Murray, requested the regional forester of the U. S. Forest Service, Northern Region to prepare a study outlining a state-wide program needed to fully develop the potential of Montana's forest resources. Finally, in 1959 President Eisenhower submitted to Congress a long-range program for the national forests.

In support of an expanding program in basic forestry research, the State Planning Board in 1959 appealed to the Senate committee on appropriations indicating concern for the potential of Montana's forests as revealed by the Forest Service report. Information at that time indicated that in all of western Montana only about 4,000 cords of pulpwood was currently being produced, though there was a potential sustainable annual production in excess of 1.2 million cords.

East of the Continental Divide a more critical situation was believed to exist. The pulpwood potential alone was in the neighborhood of one million cords per year, yet less than 30 thousand cords was being produced annually. Small sized timber (lodgepole pine) characterizes the area and is expensive to handle and hard to utilize. But the **Timber Resource Review** prepared by the U. S. Forest Service in 1955 showed that by the end of this century the United States will need wood in quantities that cannot be supplied without drawing heavily upon the timber resource of the Mountain States.

Pictured above is the artist's drawing of the new Forest Services Laboratory now under construction at the University of Montana at Missoula. It will be the center for Forest Service research in processing of western woods.

Although lodgepole pine represents an important opportunity to expand timber utilization and the income base in Montana, the problems it poses make research in this forest type urgent. Since it is a small tree, the logging and manufacturing processes involve handling many pieces. New procedures are needed to do this efficiently. Regeneration of new stands on some cutover areas is difficult. Methods must be developed to overcome the tendency toward overstocking and the resulting retarding of growth rates and tree sizes.

Much of the lodgepole pine grows on steep and fragile slopes that are very susceptible to damage from some conventional logging and road-building techniques. Since Montana is the headwaters of the Columbia and Missouri Basins, the development of utilization and road building procedures to minimize watershed damage is in some respects the most urgent of the research needs.

In 1960 the first forest fire research center in the United States was dedicated in Missoula, the Northern Forest Fire Laboratory, to study both man-caused and lightning-caused forest fires. The laboratory is designed to focus the power of science and technology on the solution of critical forest fire problems.

In 1963 the Forest Sciences Laboratory was opened at Montana State University at Bozeman to study engineering problems, silviculture and range management primarily of forests of small-sized trees.

The $400,000 laboratory now under construction at the University of Montana is the first of two stages which will make up the complex. An addition of about the same size will be built at a later date.

Nutrients Added to Soil Result In Significant Tree Growth

A University of Montana botanist in four months has grown western larch in a greenhouse to a size it normally takes four years to reach in the forest.

Dr. Mark J. Behan is directing the project and is attempting to devise techniques for the detection of mineral deficiencies in larch grown under controlled conditions. The next step will be to adopt the techniques for use in the field.

To study the effect of different concentrations of minerals on plant growth, the botanist planted one-inch seedlings in pots filled with sand. Each plant was automatically watered with a nutrient solution. Some of the plants received a solution containing a full complement of minerals while others received varying combinations of minerals.

Between June 1 and mid-September, plants which received optimum amounts of mineral shot up about 20 inches, far outdistancing plants given lesser amounts. The growth rate of the well-fed, greenhouse plants quadrupled that of seedlings in the field.

Dr. Behan will then determine approximate requirements of plants for different minerals and symptoms produced by a mineral deficiency. Symptoms not visible to the eye can be detected by chemical analysis of the plant tissue.

Analysis of plant tissues reveals the

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Machine to Measure Lean Meat On-the-Hoof Developed at MSU

A machine to determine the amount of lean meat present in an animal has been developed at Montana State University at Bozeman, and is attracting the attention of animal scientists, nutritionists and even heads of athletic departments.

Increased interest in the development of animals with a higher percentage of lean meat or higher yields, caused by the buying public's desire for leaner retail cuts has created a need for a fast, efficient method of measuring the total lean meat content of live animals.

The measuring machine which is now undergoing testing at MSU is a low-level gamma radiation counter. Lean meat in animals and humans contains potassium, and the potassium isotope is constantly being emitted from the body in the form of gamma rays. Fat and bone do not contain this particular isotope. The apparatus measures the amount of potassium by counting the bursts of natural radiation emitted from the potassium isotope K-40.

The K-40 counter is mounted on a 40-foot trailer and weighs approximately 60,000 pounds. It can be operated from electric power normally available at ranches and feedlots. About 12 to 15 animals per hour can be measured with the present handling equipment.

The counter is expected to be a valuable research tool for the cattle industry and can have far-reaching effects on both herd development and feeding programs. Since the lean meat characteristics of beef animals are 70 percent inheritable, then by measurement of the lean meat content of both the sires and dams of a herd and selection of the high-ratio lean animals, a high lean meat herd could be developed very rapidly.

It is possible the machine might also be used by doctors to find out what kind of diet would be best for a patient, and future football coaches might run their linemen through to see if they need more steak on the training table.

The unit was designed by Prof. Robert Leo and Paul Jordan, both of the electronic research laboratory at MSU. The project is sponsored by the Permian Corp. of Texas. Charles R. Keck, a representative of the company, said that Montana is one of three states being considered for a plant to manufacture the K-40. The other states are North Carolina and Oklahoma.

NUTRIENTS ADDED TO SOIL

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concentration of minerals in the foliage and indicates optimal and minimal amounts of minerals that are normally received from the soil. When this is known, forest trees that are not getting optimal amounts of some minerals can be identified and their growth can be stimulated by fertilization.

Results of the research will be of immense value to forest economists in long-range management of western larch. The project is supported by research grants from the U. S. Forest Service and the Mc-Intire-Stennis funds.

Cherry Lane Builds Modern Egg Plant

Which came first, the chicken or the egg? The question has been answered in Three Forks. It was the chicken, in fact, 27,000 chickens, which came to Cherry Lane Farms of Montana, Inc., as the first step in the opening of what will soon be Montana's largest modern egg production and processing plant.

Three Forks homemakers were employed for the careful job of moving the 27,000 chickens, three or four at a time, by hand from crates in which they were transported by truck, to spotless cages in the recently completed double-deck, environmental control cage house. The chickens were given individualized inspection and handling as an extra precaution in maintaining the ultra-sanitary conditions for which this type of new operation is designed.

The 309x50-foot environmental control hen house, built by Bud Lane Contractors of Three Forks, is the first of four such houses anticipated in long-range plans of the Cherry Lane Farms of Montana operation. It is designed to house 108,000 birds in four such buildings, with an investment in this new Montana industry of $432,000.

Jack Brady, manager of the operation, said that each hen house will produce about 20,000 eggs a day. Two houses are expected to care for the needs in this section of the state, with the rest of the eggs for out-of-state export. Approximately $150,000 worth of eggs a year are expected to be wholesaled out of each hen house.

The modern plant provides complete scientific control of the atmosphere surrounding cages and of care, sanitation, feeding, watering and egg-gathering for chickens housed in them.

An egg processing plant has also been completed where the eggs are inspected, sanitized, sized and packaged to insure fresh, healthy, nutritious eggs of consistent high quality.

The entire plant will employ approximately 16 persons when all the houses are completed. Cherry Lane Farms is a subsidiary of Northwest Egg Sales, Inc., which distributes eggs in Washington, Oregon, Idaho and Montana.

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